Keys to the Flora of Florida -- 7, Campanulaceae [1]

Daniel B. Ward

Department of Botany, Agricultural Experiment Station
University of Florida, Gainesville, Fla.

ABSTRACT: A key is provided to the 5 genera of Campanulaceae (incl. Lobelioideae) native and naturalized in the state of Florida. The genera, with the number of included species, are: *Campanula*, 3; *Lobelia*, 12; *Sphenoclea*, 1; *Triodanis* (= *Specularia*), 2; and *Wahlenbergia*, 2. Amplified keys are presented to the species within each genus. The keys are supplemented with discussion of nomenclature and justification of generic placement and specific delimitation. *Sphenoclea zeylanica* and *Wahlenbergia linarioides* are newly reported for Florida. *Lobelia cliffortiana*, *L. elongata*, and *Hippobroma longifolia* are excluded.

CAMPANULACEAE Juss. Bellflower Family

This well-defined family is represented in Florida by 5 genera, 2 of which (*Sphenoclea* and *Wahlenbergia*) are of recent introduction and were unknown for the state in the writings of J. K. Small. Of the 20 species, 4 (or 20%) are endemic and 17 (or 85%) are native. One species (*Campanula robinsiae*) is now perhaps extinct.

The Campanulaceae is at present generally circumscribed so as to contain Lobeliaceae R. Br. (as subfamily Lobelioideae), but the separation recognized by Small and other earlier authors still finds modern adherents (cf. J. Hutchinson, Families of Flowering Plants 1:476-477. 1959).

1. Corolla zygomorphic, longitudinally parted along the upper side; anthers cohering into a tube around the style. Lobelia

1. Corolla actinomorphic, the lobes uniformly connate; anthers free from each other.

   2. Flowers small, white-petaled, closely compacted in a terminal spike. Sphenoclea

   2. Flowers conspicuous, blue or purple, solitary and terminal or in loose racemose or spicate inflorescences.

---

[1] This paper is Florida Agricultural Experiment Station Journal Series No. 964.

3. Each flower sessile in the axil of a floral bract approximating a leaf in size and shape; some flowers cleistogamous. Triodanis

3. Each flower pedicellate or subtended by a reduced bract; all flowers chasmogamous.

4. Corolla rotate; capsule opening by 3 apertures on side of the hypanthium. Campanula

4. Corolla funnelform to narrowly campanulate; capsule opening by 2 - 3 apical valves, above the sepals. Wahlenbergia

CAMPANULA

A brief but modern conspectus of North American *Campanula* has been presented by S. G. Shetler (Rhodora 65:319-337. 1963). The one northern species found locally in the Panhandle (*C. americana*), and the one species widely endemic in the Peninsula (*C. floridana*), are well known and are unquestioned native members of Florida's flora.

The status of the third Florida species, *Campanula robinsiae*, is much less certain. It is known from very few collections, and has perhaps been seen in the field by only a single living botanist (R. Kral, the actual collector of *G. R. Cooley 6029*, 26 Apr 1958, USF). It has been treated as an endemic occupying a single Florida hillside, but the probability seems at least equally great that it is a recent introduction.

Campanula robinsiae was described by J. K. Small (Torreya 26: 35-36. 1926) from a collection made in the spring of 1924 on Chinsegut Hill, a rounded prominence 4 miles north of Brooksville, Hernando County. The plant is similar to *C. reverchonii*, a granitic soil endemic of the Edwards Plateau of Texas, a relationship that was noted both by Small and by Shetler. It is not closely related to *C. floridana* or other Southeast species. Its presence on one of the highest Florida hills has supported the assumption that its survival was associated with the marine inundations of the Pleistocene interglacials. Since certain other Florida endemics are seen as having persisted on a peninsular refugium or "Orange Island" (R. E. Woodson, Cont. Gray Herb. 165:12-25. 1947; W. T. Neill, Bull. Fla. State Museum 2:175-220. 1957; *contra*, C. W. James, Brittonia 13:225-244. 1961), the supposition was a natural one that *C. robinsiae* had a similar origin and history.

Even so, botanists who were familiar with Chinsegut Hill and the stately residential structure and associated landscaping placed on its summit and slopes by Mr. and Mrs. Raymond Robins were wary

of full acceptance of *Campanula robinsiae* as a Florida endemic. R. M. Harper (Jour. Fla. Acad. Sci. 12:14. 1949) remarked: "It would be very strange if a genuine native plant was confined to a single hill which was already considerably modified by civilization." Shetler (1963), after an unsuccessful search of Chinsegut Hill, wrote: "...the possibility must not be ruled out that *Campanula robinsiae* represents a pre-1926 Eurasian introduction, perhaps accidental."

Several independent observations may be presented in support of this cautious view. First, Chinsegut Hill is not part of the Lake Wales Ridge of central peninsular Florida upon and around which so many of the Florida endemics reside. It is a northern outlier of the Brooksville Ridge, a series of hills of nearly similar elevation but very different biology. Neither animals (Neill, loc. cit.) nor plants give clear evidence of Pleistocene survival in the Brooksville area. Within the flowering plants only *Justicia cooleyi* Monachino & Leonard and *Clematis micrantha* Small have been represented as endemics, the latter probably of less than specific importance (C. S. Keener, Sida 6:37. 1975), and both are at relatively low elevations which suggests a different biogeographic history.

Second, the topography of the Brooksville Ridge is conspicuously different from that of parts of the Lake Wales Ridge. Chinsegut Hill is a smoothly rounded mound, as are the other conspicuous elevations in the Brooksville area. It is difficult to imagine these promontories retaining any appreciable environmental diversity during interglacial marine intrusions. In contrast, significant areas of the Lake Wales Ridge are fundamentally level but cratered with innumerable depressions which would have retained a mesic non-saline vegetational cover.

Third, Chinsegut Hill, with an elevation of 274 feet, is significantly lower than was supposed by Small (1926), who noted it to be "reported as 366 feet altitude," and by others who have attributed endemic survival to the presence of a few emergent sea mounts throughout the Pleistocene. Even so, it is exceeded in peninsular Florida only by Iron Mountain in the Lake Wales Ridge, at 295 feet. But elevations above 250 feet are very limited in the Peninsula, and even those above 200 feet are scarcely large enough to visualize as Pleistocene refugia. Lower elevations must also have been available. Each lower elevation implies, of course, a still shorter period of continuous availability, for the earlier interglacials generated more severe flooding than did the more recent ones.

And fourth, the coupling of *Campanula robinsiae* with a plant of limited range and specialized tolerances in Texas is not a pattern of relationship that can be duplicated by other species pairs. The pattern is common of western species represented in Florida by more or less closely matched equivalents, but the western member is fundamentally of a circum-Gulf distribution and not of an

exclusively inland form. Shetler's speculation (1963), that *C. robinsiae* represents a recent introduction of a Eurasian species, is yet to be confirmed by identification of the foreign population, but still remains the most comfortable and logical explanation for the presence of this plant in Florida.

Campanula L. Bellflowers

1. Plants robust, stiffly erect (to 0.3 - 1 m. tall) and unbranched; flowers nearly sessile, solitary or in cymules of 2 - 3 (5); corolla rotate, blue; style descending then curving upward, much exceeding the corolla; capsules opening near the top; leaves ovate with acuminate apices, to 35 mm. broad, regularly serrate; annual; very local, on moist heavily shaded calcareous slopes or ledges, along bluffs of Apalachicola River (Gadsden and Liberty counties) and in central Jackson County (Chipola River and tributaries). (March) July - October. [*Campanulastrum americanum* (L.) Small]
TALL BELLFLOWER. C. americana L.

1. Plants delicate, sprawling or weakly ascending (usually not above 0.2 m. tall, the stems (in *C. floridana*) to 0.5 m. long); flowers solitary, on slender erect or ascending pedicels, the style not exceeding the corolla.

2. Calyx lobes equalling the length of the corolla lobes; hypanthium turbinate, the capsule opening near the middle; corolla purple; leaves lanceolate, to 5 mm. wide, the surface papillate and margin revolute with distant gland-teeth; weak-based sprawling perennial; grassy roadsides, meadows, creek banks, and pond margins, frequent; peninsular Florida, from Collier County north to Taylor, Lafayette, and Putnam counties, endemic. March - June. [*Rotantha floridana* (S. Wats.) Small]
FLORIDA BELLFLOWER. C. floridana S. Wats. ex Gray

2. Calyx lobes half the length of the corolla lobes; hypanthium subglobose, the capsule opening near the bottom; corolla light blue; leaves ovate, to 4 mm. wide, the surface smooth and the margin plane with few acute teeth; sprawling annual; moist seepage area on slope of Chinsegut Hill, Hernando County, endemic; exceedingly rare and now perhaps extinct (the last known collection: *G. R. Cooley 6029*, 26 Apr 1958, USF). April - May. [*Rotantha robinsiae* (Small) Small]
CHINSEGUT BELLFLOWER. C. robinsiae Small

LOBELIA

Three recent workers have contributed substantially to our understanding of the genus *Lobelia*: R. McVaugh (Rhodora 38:241-

263, 276-298, 305-329, 346-362. 1936; Am. Midl. Nat. 24:681-702. 1940; N. Am. Fl. 32A:35-99. 1942), F. E. Wimmer (Pflanzenreich, heft 107:408-695. 1953), and W. M. Bowden (Bull. Torrey Bot. Club 86:94-108. 1959; Can. Jour. Gen. Cyt. 1:49-64. 1959; 2:11-27. 1960; 2:234-251. 1960). Few consequential surprises are to be expected following their thorough and diverse treatments.

Difficulties of identification within *Lobelia* in Florida lie almost entirely in the group of blue large-flowered species: *L. amoena*, *L. brevifolia*, *L. glandulosa*, and *L. puberula*. Although this group has been given special attention by Bowden (1959) and the species seem well-defined, hybrids or apparent hybrids occur with some frequency. Perhaps the most often encountered is an obvious intermediate between *L. brevifolia* and *L. puberula*, but with nearly equal frequency individuals may be observed that carry only a subtle indication (perhaps a single calyx-lobe tooth) of gene flow. As one perplexing example, most collections of *L. puberula* in the more southern portion of its range show non-glandular teeth on the calyx lobes that suggest introgression from *L. brevifolia*, but in a part of the state where that species does not occur. Occasional individuals of *L. brevifolia* with glabrous hypanthia and *L. glandulosa* with long-hirsute hypanthia may be reflecting the influence of *L. amoena* and *L. puberula*, respectively.

Lobelia L. Lobelias

1. Corolla bright red; flowers large (filament-tube 25 - 30 mm. long); medium to large (to more than 2 m. tall, with stems 2.5 cm. in dia.) perennial herb; wet woodland soils, usually along brooks or rivers, or (in peninsular Florida) emergent from streams or supported by floating vegetation, conspicuous but usually not common; Panhandle Florida and south in the Peninsula to Hillsborough and Orange counties. July - November. [Plants in the western Panhandle are of moderate size and are consistently terrestrial; they represent var. *cardinalis*. In the Peninsula the species is often much more robust, with pronounced horizontal bases and stout aerenchyma-filled stems that float or are supported in the water of spring runs and along the edges of clearer rivers; such plants are endemic and are known as var. *meridionalis* Bowden.]
   CARDINAL-FLOWER. L. cardinalis L.

1. Corolla of blue or lavender shades, or white; flowers small to medium (filament-tube not above 10 mm. long).

   2. Leaf blades ovate to orbicular, scarcely longer than broad; petioles apparent; flowers small (filament-tube 3 mm. long or less).

3. Blades entire to inconspicuously crenate, mostly under 1 cm. long; ovary more than half inferior; corolla blue with white throat; delicate annual, usually little more than 10 cm. tall, the stems decumbent to weakly erect; moist roadsides and savannas, locally abundant; peninsular Florida, south to Collier County; endemic. (December) February - May.

L. feayana Gray

3. Blades conspicuously toothed, 1.5 - 3 cm. long; ovary less than one third inferior; corolla pale lavender with white throat, or wholly white; erect annual, often to 30 - 50 cm. tall; occasional in moist to dry hammocks, citrus groves, roadsides, and cultivated fields; peninsular Florida, from St. Johns County and Citrus County, south to Collier County; endemic. February - May. [*L. cliffortiana* L., in error; *L. cliffortiana* var. *xalapensis* Gray]

L. homophylla Wimmer

2. Leaf blades variously ovate, lanceolate, oblanceolate, or linear, appreciably longer than broad (small orbicular rosette leaves sometimes present in *L. nuttallii*, but cauline leaves linear); petioles absent or confluent with the blade; flowers small to medium.

4. Leaves mostly basal, oblanceolate to spatulate, the cauline ones greatly reduced (see also *L. flaccidifolia*).

5. Corolla small (filament-tube 3 - 4 mm. long), with open slit between lateral petals ("fenestrate"), white or pale lavender; moist savannas, open grassy flatwoods, and ditch banks, frequent; nearly throughout Florida, from Dade County northward, and west to the central Panhandle (Bay County). April - June (August).

L. paludosa Nutt.

5. Corolla medium (filament-tube 7 mm. long), lacking slit (non-fenestrate), pale pinkish lavender; wet ditches, and shallow cypress or flatwoods ponds, infrequent; Panhandle Florida (Leon County, westward). July - October.

L. floridana Chapm.

4. Leaves mostly cauline, variously linear to ovate.

6. Cauline leaves linear to filiform; flowers small (filament-tube 3 - 4 mm. long).

7. Plants delicate, weakly erect; cauline leaves linear, glabrous; basal leaves (if present) broadly ovate to orbicular, 0.5 - 1.5 cm. long, densely strigose above; pedicels 3 mm. long, much shorter than flower;

corolla lavender-blue, lighter in throat; among deep wiregrass of moist pinelands and savannas, frequent; Panhandle Florida, from the Apalachicola River westward. April - October.

L. nuttallii Roem. & Schult.

7. Plants stiffly erect, from creeping rootstock; cauline leaves filiform, very reduced; basal leaves lacking; pedicels 6 - 10 mm. long, longer than flower; corolla pale blue; emergent from shallow water of cypress ponds and ditches, rare but sometimes abundant where found; northern Panhandle Florida (Okaloosa, Jackson, Gadsden counties). May - July.

L. boykinii Torr. & Gray

6. Cauline leaves various, but in most, broader than linear (if linear, as in *L. glandulosa*, then flowers medium (filament-tube 8 - 10 mm. long)).

8. Leaves small (1 - 2.5 cm. long), pectinately toothed, numerous (12 - 80), stiffly spreading from stem; calyx lobes pectinately lobed, the basal auricles large and covering the hypanthium; hypanthium long-hirsute (rarely glabrous); corolla lavender-blue, medium in size (filament-tube 7 mm. long); moist pinelands, frequent; Liberty and Franklin counties on east side of Apalachicola River, westward through the Panhandle. August - November.

L. brevifolia Nutt. ex A. DC.

8. Leaves larger (3 - 10 cm. long), serrate to nearly entire, few (5 - 20), often lax; calyx lobes toothed or entire, the basal auricles not covering the hypanthium.

9. Leaves linear or narrowly lanceolate, glabrous; hypanthium glabrous (rarely long-hirsute); calyx lobes glandular toothed; corolla light purple, medium in size (filament-tube 8 - 10 mm. long); stem and leaves brittle; frequent in wet soil of pine flatwoods, ditches, and low meadows; throughout Florida. (March - April) September - January.

L. glandulosa Walt.

9. Leaves ovate to elliptic.

10. Flowers small (filament-tube 4 - 5 mm. long); hypanthium minutely hirsute along veins; lower cauline leaves usually larger, finely crenate;

wet riverbottom forest, rare; along Yellow and Shoal rivers and tributaries, Okaloosa County, western Panhandle. June - October.
L. flaccidifolia Small

10. Flowers medium (filament-tube 6 - 8 mm. long); hypanthium long-hirsute or glabrous; median leaves usually larger, serrate.

11. Leaves densely puberulent beneath; hypanthium long-hirsute or glabrous; calyx lobes usually entire; corolla lavender with white throat; dry to moist woods, frequent; north Florida, throughout the Panhandle and in the northern Peninsula south to Hernando and Brevard counties. September - October. [Hybrids with *L. brevifolia* are frequent, characterized by pectinately toothed calyx lobes and more numerous leaves.]
L. puberula Michx.

11. Leaves glabrous beneath, with a whitish parchment-like texture when dry; hypanthium glabrous; calyx lobes toothed (rarely entire); corolla lavender without white throat; along creeks or on hummocks in seepy areas; moist to wet usually dense woods, rare; Panhandle Florida, east to Leon County, and disjunct to Marion County (Juniper Creek) in the north-central Peninsula. September - November. [Two varieties may be recognized in Florida. Most plants have prominently glandular-toothed calyx lobes and are var. *glandulifera* Gray (*L. glandulifera* (Gray) Small; *L. georgiana* McVaugh). Those with entire lobes seem restricted to Leon and Jackson counties; they are var. *amoena*.]
L. amoena Michx.

Excluded Species

Lobelia cliffortiana L. This native of the New World tropics has been attributed to Florida apparently on the basis of confusion with the very similar *L. homophylla*. It is separated from the latter by a capsule that is more than half inferior, in contrast to the nearly superior capsule of the Florida endemic.

Lobelia elongata Small. This narrow leaved plant of the Carolina coastal marshes was reported for Florida by Bowden (1960) on the basis of a glabrous leaved Leon County collection (*H. Kurz*

in 1942, FLAS). The broadly ovate leaves and the "piney woods" habitat, however, are typical of *L. puberula*.

SPHENOCLEA

The inclusion of *Sphenoclea* in the Campanulaceae is more a matter of precedent and convenience than conviction of natural alliance. Its true relationships may be elsewhere. H. K. Airy Shaw (Flora Malesiana 4(1):27-28. 1948) has noted similarities both to the Phytolaccaceae and the Primulaceae and has suggested that its proper treatment is as the monogeneric family Sphenocleaceae. Certain other authors (e.g., Backer, Flora of Java, 1965; Heppner in Hutchinson & Dalziel, Flora of West Tropical Africa 2:307. 1963) have accepted this analysis. J. Hutchinson (Families of Flowering Plants 1:476-477. 1959), however, has seen the resemblances to the Phytolaccaceae as superficial and a consequence of parallel evolution, and has retained *Sphenoclea* as a genus within the Campanulaceae.

Sphenoclea Gaertn.

1. Erect soft-stemmed herb, to 100 cm. tall; leaves elliptic, acute, entire; inflorescences spicate, terminal or on lateral branches; flowers small, closely crowded; corollas whitish, minute, soon surpassed by enlarged green calyx lobes; capsule circumscissile; seeds very numerous, minute; wet areas, along ditches or emergent from shallow water, sometimes forming a belt around lake margins, rare; a chance introduction, often not persisting, in peninsular Florida (Alachua, Hillsborough, Manatee, Osceola counties). August - October.
GOOSEWEED. S. zeylanica Gaertn.

TRIODANIS

For many decades North American botanists comfortably treated the following two native species as members of the European genus *Specularia*. Even the common name, Venus' Looking-glass, was a medieval allusion to the resemblance of the flowers of the Mediterranean *S. speculum-veneris* to the ancient round bronze mirror, or speculum.

The rationale for segregating the largely American species of *Triodanis* has been presented with thoroughness by R. McVaugh (Wrightia 1:13-52. 1945; Rhodora 50:38-49. 1948). The justification lies in the scant differences between *Specularia* as it has previously been defined, and the large and heterogeneous genus *Campanula*. If *Specularia* is broken into smaller homogeneous groupings, of which *Triodanis* is among the most clearly delimited,

Campanula may be increased by the inclusion of some of the species of closest affinity but without becoming too large or unworkably diverse. As segregated, all species of *Triodanis* produce cleistogamous flowers, which are not known in *Specularia* sensu stricto. *Triodanis* is further characterized by the combination of annual habit, deeply divided corolla, a capsule longer than wide and opening near the apex, and a spicate inflorescence.

McVaugh's appraisal has been disregarded by many contemporary American floristic writers (cf. Gleason, 1952; Radford, 1968), and has been disputed by M. L. Fernald (Rhodora 48:209-214. 1946). A careful reading of Fernald's position and of McVaugh's reply (1948), however, suggests that Fernald did not fully comprehend the untenability of *Specularia* as a genus distinct from *Campanula* if *Triodanis* is not segregated, and that precedent rather than evolutionary structure may have been the primary determinant behind the retention of *Specularia* for the American plants. The use of *Triodanis* in floristic works dealing with native American species is therefore to be encouraged.

A recent study by T. R. Bradley (Brittonia 27:110-114. 1975) has proposed that the plants treated here be seen as a single species with two varieties. Bradley's justification was the ease with which the morphological extremes were crossed in cultivation and the presence of plants of hybridlike morphology in natural populations. Bradley acknowledged the correlation of several strong characters (leaf and bract shape, degree of cleistogamy, capsule valve position, seed surface pattern), as well as ranges which coincide only in part. But previous workers have not reported difficulty in distinguishing the populations which constitute the two recognized species, and observation of sympatric situations during the present study revealed few or no intermediates. It is clear that isolating mechanisms are operating under field conditions. Elevation of the rank of "variety" so that it would apply to populations as discrete as the two morphological extremes of eastern North American *Triodanis* would be a significant and unacceptable expansion of its traditional meaning.

Triodanis Raf. Venus' Looking-glass

1. Pores at or very near apex of the capsule; leaves and floral bracts usually longer than broad, with no more than one pair of lateral veins; one (rarely 2) purple flowers opening at summit of stem (the lower flowers being cleistogamous); annual herb; moist to dry roadsides, fallow fields, frequent; northern Florida (south to Marion and Hillsborough counties). April - May. [*Specularia biflora* (R. & P.) Fisch. & Mey.; *Triodanis perfoliata* var. *biflora* (R. & P.) Bradley]
T. biflora (Ruiz & Pavon) Greene

1. Pores nearly midway between base and apex of capsule; leaves and floral bracts usually as broad as or broader than long, with several pairs of lateral veins; several purple flowers opening along the upper axis (the lower flowers being cleistogamous); annual herb; moist to dry roadsides, fields, groves, and waste areas, usually in sandy soils, common; north and central Florida (south to Hillsborough and Polk counties). February - April. [*Specularia perfoliata* (L.) A. DC.]

T. perfoliata (L.) Nieuwl.

WAHLENBERGIA

This genus is large, with perhaps 150 species, most of them in the southern hemisphere. It was not present in the Southeast until comparatively recent times. *Wahlenbergia marginata*, from Asia, apparently was first known in Florida in 1937 when collected in Alachua County (*W. A. Murrill*, Gainesville, FLAS). By 1940 and 1941, respectively, it was in the central Panhandle (Chipley, Washington County, FLAS) and midway down the Peninsula (Leesburg, Lake County, FLAS). It now probably occurs in all areas north of the central Peninsula, with collections being known from twenty-four counties, but it has not spread appreciably south of the early Lake County station.

Wahlenbergia linarioides, of southern South America, was first collected in Florida in 1958 (*R. K. Godfrey 56689*, FSU), from West Pensacola, Escambia County. In 1971 it appeared in the northeastern part of the state (*G. H. Morton 4737*, Camp Blanding, Clay County, NY), and in 1973 at a point midway between, in the central coastal Panhandle (*R. K. Godfrey 72348*, Carrabelle, Franklin County, FLAS, FSU).

The following key is expanded from R. K. Godfrey (Sida 1:185-186. 1963).

Wahlenbergia Schrad. ex Roth

1. Hypanthium in flower 3.5 - 4.5 mm. long, narrowly obconical to subcylindrical, in fruit up to 12 mm. long, opening by 2 terminal valves; seeds broadly elliptic; corolla pale blue; perennial herb, usually with several curving-erect stems unbranched below the inflorescence, to 50 cm. tall; dry sandy soil, in waste areas, among scrub vegetation of stabilized dunes, and on roadsides, rare; north Florida (Escambia, Franklin, Clay counties). April - June.

W. linarioides (Lam.) A. DC.

1. Hypanthium in flower 1.5 - 3 mm. long, ellipsoid or ovoid, in fruit up to 7.5 mm. long, opening by 3 terminal valves; seeds oblong; corolla purplish blue; annual or short-lived perennial herb, with delicate simple to branched erect stems, to 40 cm. tall; moist to dry soils of waste areas, roadsides, old fields, and stream banks, common; northern Florida, south in the Peninsula to Hillsborough and Lake counties. March - September.
W. marginata (Thunb.) A. DC.

EXCLUDED GENERA

Hippobroma longifolia (L.) G. Don (*Isotoma longiflora* (L.) Presl; *Laurentia longiflora* (L.) Peterm. in Engl.) Madam Fate, Devil's-jessamine, Horse-poison. This native of the American tropics has been reported for Florida on the authority of McVaugh (Bull. Torrey Bot. Club 67:778-798. 1940; N. Am. Flora 32A:100. 1943). His basis was a collection bearing the printed data: "Florida. F. Rugel: 1842 - 1849." Ferdinand Rugel collected extensively in Florida during those years, but, as has been noted elsewhere (Castanea 33:79. 1968), he was also active in Cuba during the same time span and the labels do not always reflect the probably source of his specimens. No indisputable Florida collections are known, and the plant is not believed to occur in the state.

Hippobroma has attractive long (80 - 160 cm.) salverform white corollas. It has been cultivated as an ornamental and has spread widely in tropical areas as an escape and as a chance introduction. Introduction of this plant into Florida, or its cultivation under conditions from which it might escape, would verge on the irresponsible in view of its record as one of the most toxic species in the Americas. The foliage is extremely poisonous to stock, and a drop of the milky juice splashed into the eye is reputed to cause blindness. Its common names reflect the reputation it holds in its native lands.